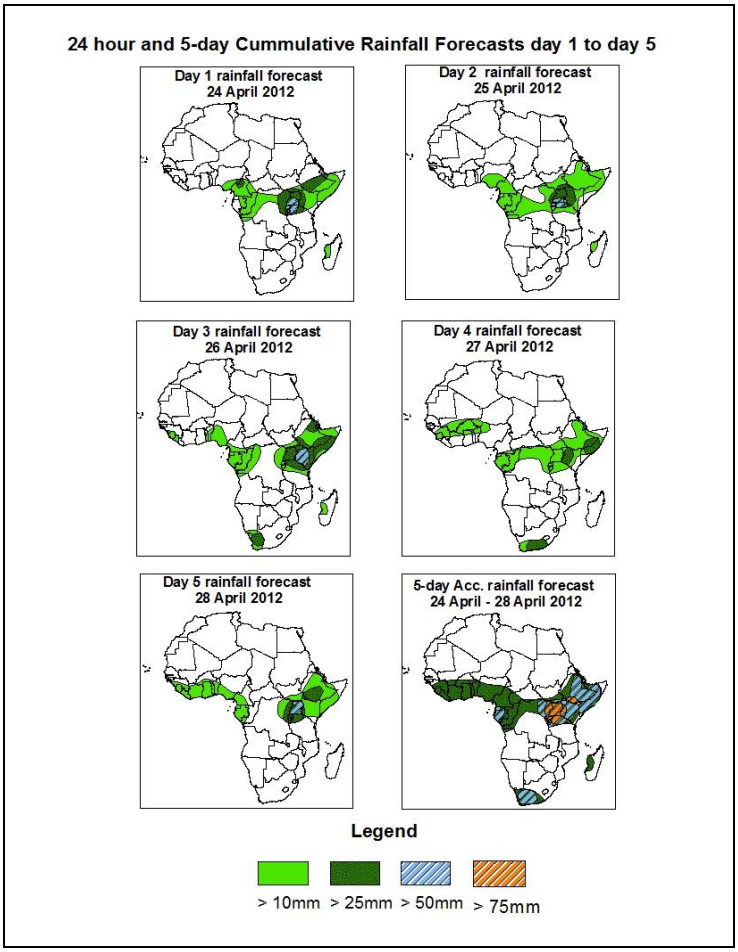
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 24 April – 06Z of 28 April 2012, (Issued at 15:30Z of 23 April 2012)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.

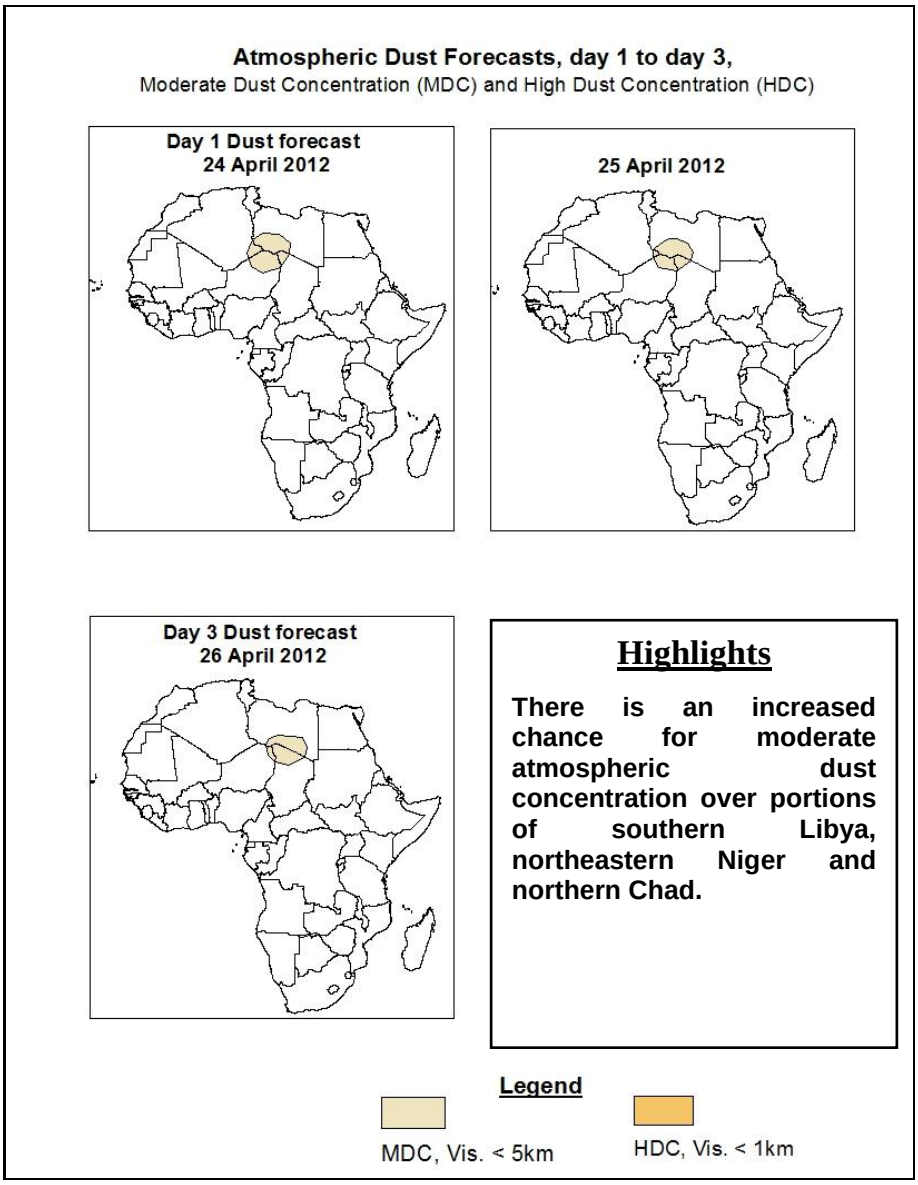


Summary

In the next five days, seasonal wind convergences in the Gulf of Guinea and western equatorial Africa regions, convergences associated with Congo Air Mass, seasonal wind convergences in southern Ethiopia and Somalia, and interactions between mid-latitude and tropical systems across southeastern Africa are expected to enhance rainfall across their respective regions. In general, there is an increased chance for heavy rainfall over portions of southern Ethiopia, eastern DRC, Uganda, Kenya portions of Tanzania, Rwanda and Burundi.

1.2. Atmospheric Dust Forecasts: Valid 24 – 26 April 2012

The NCEP/GFS, the UK Met Office, the ECMWF and the NCEP/WRF outputs are used to identify areas with high probability of dust concentration.



1.3. Model Discussion: Valid from 00Z of 23 April 2012

According to the GFS, ECMWF and UKMET models an east-west oriented trough and its associated heat lows are expected to prevail in the region between southern Mali and Sudan.

A low near northwestern Nigeria is expected to deepen gradually, with its central pressure value decreasing from 1007hpa in 24 hours to 1003hpa in 120 hours. The central pressure value of a low over central Chad tends to increase slightly from 1005hpa in 24 hours to 1006mb in 72 hours, and it tends to decrease to mean sea level pressure value of 1003hpa towards end of the forecast period. The low across Sudan and South Sudan Republic is also expected to fill up slightly, with its central pressure value increasing from 1004hpa to 1007mb through 24 to 72 hours, and its central pressure value tends to decrease back to 1003hpa towards end of the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to weaken, with its central pressure value decreasing from 1034hpa in 24 hours to 1019hpa in 120 hours.

The Mascarene high pressure system over southwestern Indian Ocean is expected to shift eastwards, while giving way to the interactions between mid-latitude and tropical systems during the forecast period. Its central pressure value is expected to decrease from 1031hpa to 1026hpa through 24 to 72 hours.

At 925hpa level, zone of moderate and dry northerly wind (25 to 35kts) is expected to weaken gradually over parts of Chad and Sudan through 24 to 72 hours.

At the 850hpa level, a lower tropospheric wind convergence associated with the West African Monsoon is expected to remain more or less active across the Gulf of Guinea region during the forecast period. Seasonal lower level convergences are expected to remain active over southern Sudan, Ethiopia and Somalia throughout the forecast period. The convergence associated with the meridional arm of the ITCZ is expected remain active across eastern DRC and the Lake Victoria region during the forecast period.

At 500hpa level, the zonal pattern in the mid-tropospheric flow across northern Africa and the neighboring areas is expected to attain a wavy patter, with deep mid-latitude trough dominating the flow over northeastern Africa towards end of the forecast period. A mid-latitude frontal trough is also expected propagate across southern South Africa Republic during the forecast period.

At 200mb, the Sub-Tropical Westerly Jet across northeastern Atlantic Ocean, North Africa and eastern Egypt is expected to attain a wavy pattern, with maximum wind values exceeding 100kts across the southwest-northeast oriented cores near Northeast Africa and Northwest Africa.

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There is an increased chance for moderate atmospheric dust concentration over portions of southern Libya, northeastern Niger and northern Chad.

2.0. Previous and Current Day Weather Discussion over Africa

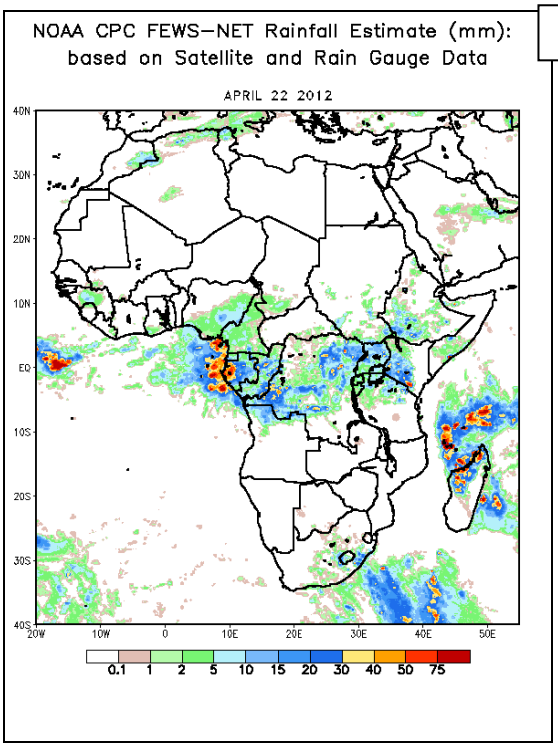
(22 April – 23 April 2012)

2.1. Weather assessment for the previous day (22 April 2012)

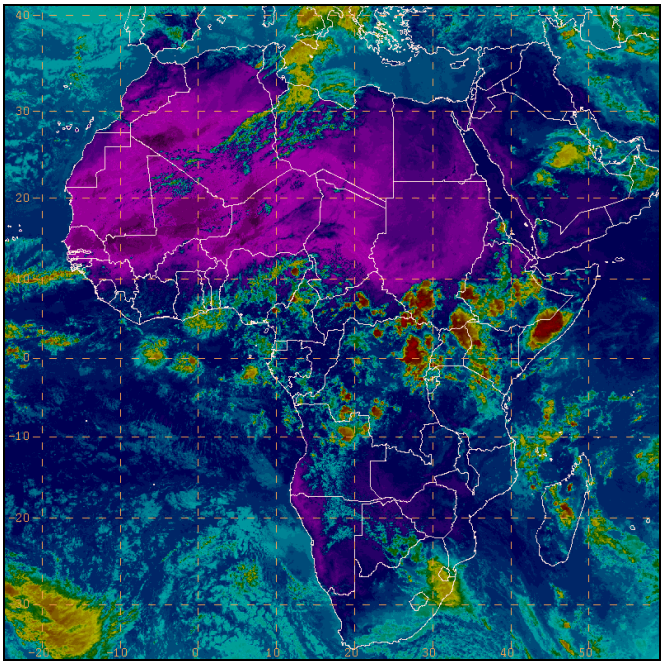
During the previous day, moderate to locally heavy rainfall was observed across portions of eastern Nigeria, Gabon, DRC, Uganda, western Kenya, southern Ethiopia, the Comoros Islands, and northern Madagascar.

2.2. Weather assessment for the current day (23 April 2012)

Intense clouds are observed across eastern parts of the Gulf of Guinea region, central African countries and the Greater Horn of Africa countries.



IR Satellite Image (valid 1500Z of 23 April 2012)



Previous day rainfall condition over Africa (top Left) based on the NCEP CPCE/RFE and current day cloud cover (top right) based on IR Satellite image

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